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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/925,888	08/14/2001	Tim Wilkinson	TRAS-560	3640

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TOWNSEND AND TOWNSEND AND CREW, LLP
TWO EMBARCADERO CENTER
EIGHTH FLOOR
SAN FRANCISCO, CA 94111-3834

EXAMINER

VO, TED T

ART UNIT PAPER NUMBER

2192

DATE MAILED: 05/27/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Supplemental
Notice of Allowability**

Application No.

09/925,888

Examiner

Ted T. Vo

Applicant(s)

WILKINSON ET AL.

Art Unit

2192

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 12/13/04.
2. ☒ The allowed claim(s) is/are 1,2,5-7,9-12,15-17,19 and 20.
3. ☒ The drawings filed on 14 August 2001 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).


* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☒ Interview Summary (PTO-413),
Paper No./Mail Date 5/24/05
7. ☒ Examiner's Amendment/Comment
8. ☐ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____


TED T. VO
primary Examiner

EXAMINER'S AMENDMENT

1. This communication is a supplemental notice of allowability, which follows the prior Notice of Allowability mailed on 03/25/2005. The Examiner Amendment is required for resolving 101 issue remaining in the Claims.

Claims 1-2, 5-7, 9-10 are amended within this Examiner Amendment,

Claims 1-2, 5-7, 9-12, 15-17, and 19-20 **remain allowed** as noted in the prior Notice of Allowability, mailed on 03/25/2005.

2. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Applicants' representative, Mr. Richard Ogawa, Attorney Reg. No. 37,692, on 5/24/05.

3. Examiner amendment is given to resolve the 101 issue remaining in the Claims 1-2, 5-7, and 9-10 in order to place the application in the condition for allowance.

4. **In the Claims:** Please amended Claims 1-2, 5-7, and 9-10 as follows:

Claim 1. (Currently amended) A [software program] computer readable medium for providing instructions to one or more processors to execute processes on an embedded computing device configured for establishing a network connection with at least one other computing device, comprising:

(a) an operating system layer;

(b) an application framework;

(c) a programming environment including a contention locking scheme for setting light object locks, which are handled in user space, and heavy object locks, which are handled at the system level, wherein the contention locking scheme is configured to set a light object lock on an initially unlocked object when a first thread attempts to lock the object, and to maintain a light lock on the object when a nested intra-thread lock is attempted by the first thread;

(d) a stack-based local lock slot structure for addressing stack variables to identify threads; and

(e) a first stack corresponding to a data area of the first thread and a second stack corresponding to a data area of the second thread, the first and second stack being separated by at least a reserved area.

Claim 2. (Currently amended) The [software program] computer readable medium of Claim 1, wherein the contention locking scheme is further configured to set a heavy object lock on the object when the second thread attempts to lock the object while the object is lightly locked by the lock attempt by the first thread.

Claim 5. (Currently amended) The [software program] computer readable medium of Claim 2, wherein the contention locking scheme is configured to maintain the light lock when an address difference between a current lock slot of the first thread for the lightly locked object and that of the nested intra-thread locking attempt is determined to be less than the reserved area.

Claim 6. (Currently amended) The [software program] computer readable medium of Claim 2, wherein the contention locking scheme is configured to set the heavy lock when an address difference between a current lock slot of the first thread for the lightly locked object and that of the locking attempt by the second thread is determined to be greater than the reserved area.

Claim 7. (Currently amended) The [software program] computer readable medium of Claim 1, wherein the contention locking scheme further includes a lock structure and a lock structure reference in an object header of the object, the lock structure including a lock holder and wait queues.

Claim 9. (Currently amended) The [software program] computer readable medium of claim 1, wherein the contention locking scheme is configured to maintain the light lock when an address difference between a current lock slot of the first thread for the lightly locked object and that of the nested intra-thread locking attempt is determined to be less than the reserved area.

Claim 10. (Currently amended) A [software program] computer readable medium for providing instructions to one or more processors to execute processes on an embedded computing device configured for establishing a network connection with at least one other computing device, comprising:

- (a) an operating system layer;
- (b) an application framework;
- (c) a programming environment; and

(d) a contention locking scheme for setting light object locks, which are handled in user space, and heavy object locks, which are handled at the system level, the contention locking scheme is configured to set a light object lock on an initially unlocked object when a first thread attempts to lock the object, to maintain a light lock on the object when a nested intra-thread lock is attempted by the first thread, and to compare an address difference between a current lock slot of the first thread for the lightly locked object and that of the nested intra-thread locking attempt with a size of a reserved area at an end of a stack, the contention locking scheme includes:

(e) a stack-based local lock slot structure for addressing stack variables to identify threads, and

(f) a lock structure and a lock structure reference in an object header of the object, the lock structure including a lock holder and wait queues.

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5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ted T. Vo whose telephone number is (571) 272-3706. The examiner can normally be reached on 8:00AM to 5:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tuan Q. Dam can be reached on (571) 272-3694. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Any inquiry of a general nature or relating to the status of this application should be directed to the TC 2100 Group receptionist: 571-272-2100. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Ted T. Vo
Primary Examiner
Art Unit 2192
May 24, 2005